

**Notice of Allowability**

Application No.

10/631,065

Examiner

Richard Franklin

Applicant(s)

BOECKER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 11 October 2007.
2. ☒ The allowed claim(s) is/are 1-5, 7, 15-18 and 20-27.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
ALFORD KINDRED  
SUPERVISORY PATENT EXAMINER

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Lisa Yociss (Reg. No. 36,975) on 16 November 2007.

The application has been amended as follows:

**Please amend claim 1 to read:**

A method for performing bus arbitration, the method comprising:

receiving, by a device driver layer from one of a plurality of applications included in an application layer, a request to perform a first device access operation on one of a plurality of end devices, the device driver layer including a plurality of device drivers that communicate with the plurality of end devices utilizing a bus;

each one of the plurality of end devices being connected to the bus;

determining, by the device driver layer, whether the one of the plurality of end devices is locked;

responsive to the one of the plurality of end devices not being locked, locking, by the device driver layer, the one of the plurality of end devices and performing the first device access operation for the one of the plurality of applications;

responsive to the first device access operation completing, unlocking the one of the plurality of end devices; and

another one of the plurality of applications performing a second device access operation to access another one of the plurality of end devices while the first device access operation is being performed, wherein the bus is not locked while the first device access operation is being performed and the one of the plurality of end devices is locked.

**Please amend claim 2 to read:**

The method of claim 1, wherein the first device access operation is one of a read operation and a write operation.

**Please amend claim 3 to read:**

The method of claim 1, further comprising:  
responsive to the one of the plurality of end devices being locked, denying the first device access operation.

**Please amend claim 15 to read:**

An apparatus for performing bus arbitration, the apparatus comprising:  
an Inter-Integrated Circuit (IIC) bus;  
a plurality of end devices attached directly to the bus;  
a plurality of applications included in an application layer; and

a driver layer that includes a wrapper layer, the driver layer including a plurality of device drivers that communicate with the plurality of end devices utilizing the bus,

wherein the wrapper layer receives a request from one of the plurality of applications to perform a first device access operation on one of the plurality of end devices, determines whether the one of the plurality of end devices is locked, and, responsive to the one of the plurality of end devices not being locked, locks the one of the plurality of end devices and performs the first device access operation, and wherein, responsive to the first device access operation completing, the wrapper layer unlocks the one of the plurality of end devices; and further wherein another one of the plurality of applications performs a second device access operation to access another one of the plurality of end devices while the first device access operation is being performed, wherein the bus is not locked while the first device access operation is being performed and the one of the plurality of end devices is locked.

**Please amend claim 16 to read:**

A computer program product, in a computer readable medium, for performing bus arbitration, the computer program product comprising:

instructions for receiving, by a device driver layer from one of a plurality of applications included in an application layer, a request to perform a first device access operation on one of the plurality of end devices, the device driver layer including a plurality of device drivers that communicate with the plurality of end devices utilizing a bus;

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each one of the plurality of end devices being connected to the bus;

instructions for determining, by the device driver layer, whether the one of the plurality of end devices is locked;

instructions, responsive to the one of the plurality of end devices not being locked, for locking, by the device driver layer, the one of the plurality of end devices and performing the first device access operation for the one of the plurality of applications;

instructions, responsive to the first device access operation completing, for unlocking the one of the plurality of end devices; and

another one of the plurality of applications performing a second device access operation to access another one of the plurality of end devices while the first device access operation is being performed, wherein the bus is not locked while the first device access operation is being performed and the one of the plurality of end devices is locked.

**Please amend claim 21 to read:**

The apparatus of claim 15, wherein the first device access operation is one of a read operation and a write operation.

**Please amend claim 22 to read:**

The apparatus of claim 15 wherein the wrapper layer, responsive to the one of the plurality of end devices being locked, denies the first device access operation.

**Please amend claim 26 to read:**

The computer program product of claim 16, wherein the first device access operation is one of a read operation and a write operation.

**Please amend claim 27 to read:**

The computer program product of claim 16 further comprising:  
instructions for, responsive to the one of the plurality of end devices being locked, denying the first device access operation.

### DETAILED ACTION

2. Claims 1 – 5, 7, 15 – 18, and 20 – 27 are pending.

### *Allowable Subject Matter*

3. Claims 1 – 5, 7, 15 – 18, and 20 – 27 are allowed.
4. The following is an examiner's statement of reasons for allowance:

Claims 1 – 5, 7, 15 – 18, and 20 – 27 are allowed because the prior art of record fails to teach or suggest alone or in combination ***a second application performing a second device access operation to access another one of the plurality of end devices while the first device access operation is being performed, wherein the bus is not locked while the first device access operation is being performed and the one of the plurality of end devices is locked***, as required by independent claims 1 and 15 – 16, ***in combination with the other recited claim elements*** (emphasis added). Support for this limitation can be found in the originally filed specification on page 4 of the originally filed specification. The prior art of record, US Patent No. 5,535,416 (hereinafter Feeney), teaches a system in which a device driver receives a command request, checks to see if the device is locked, locks the device, performs the command, and unlocks the device. However, Feeney does not teach that another application is running in the system and is accessing another device at the same time that the first application is accessing the locked device.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."



**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571) 272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272-4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Patent Examiner  
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